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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

JAN 15 2004

Application of: Jay M. Short
Confirmation No.: 8386
Serial No.: 09/214,645
Filed: September 27, 1999
For: Methods of DNA Shuffling with Polynucleotides Produced by Blocking or
Interrupting a Synthesis or Amplification Process
Examiner: Bradley L. Sisson

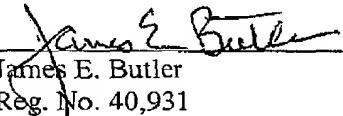
Group Art Unit: 1634
Atty Docket No: 1220-2

OFFICIAL

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James E. Butler
Reg. No. 40,931

| Document | No. of Pages |
|--|--------------|
| Transmittal Form (PTO/SB/21) | 1 |
| Fee Transmittal Form plus copy (PTO/SB/17) | 2 |
| Response Under 37 C.F.R. 1.111 with Extension of Time Request | 12 |
| | |
| Total Number of Pages Transmitted (including this page) | 16 |

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PTO/SB/21 (08-03)

Approved for use through 08/30/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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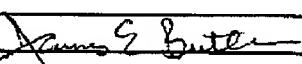
(To be used for all correspondence after initial filing)

| | | | |
|--|----|------------------------|--------------------|
| | | Application Number | 09/214,645 |
| | | Filing Date | September 27, 1999 |
| | | First Named Inventor | Jay M. Short |
| | | Art Unit | 1634 |
| | | Examiner Name | Bradley L. Sisson |
| Total Number of Pages in This Submission | 16 | Attorney Docket Number | 1220-2 |

ENCLOSURES (Check all that apply)

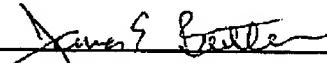
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| <input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input checked="" type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ | <input type="checkbox"/> Alter Allowance communication to Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): FACSIMILE TRANSMISSION COVER SHEET |
| Remarks | | |

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

| | |
|-------------------------|---|
| Firm or Individual name | James E. Butler |
| Signature |  |
| Date | January 15, 2004 |

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| | |
|-----------------------|---|
| Typed or printed name | James E. Butler |
| Signature |  |
| | Date |
| | January 15, 2004 |

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 475.00)

Complete if Known

| | |
|----------------------|--------------------|
| Application Number | 09/214,645 |
| Filing Date | September 27, 1999 |
| First Named Inventor | Jay M. Short |
| Examiner Name | Bradley L. Sisson |
| Art Unit | 1634 |
| Attorney Docket No. | 1220-2 |

METHOD OF PAYMENT (check all that apply)

Check Credit card Money Order Other None

Deposit Account:

Deposit Account **50-0661**
Number
Deposit Account Name **Diversa Corporation**

The Director is authorized to: (check all that apply)

Charge fee(s) indicated below Credit any overpayments
 Charge any additional fee(s) or any underpayment of fee(s)
 Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION (continued)

3. ADDITIONAL FEES

| Large Entity | Small Entity | Fee Description | Fee Paid |
|--------------|--------------|--|----------|
| 1051 | 130 | 2051 65 Surcharge - late filing fee or oath | |
| 1052 | 50 | 2052 25 Surcharge - late provisional filing fee or cover sheet | |
| 1053 | 130 | 1053 130 Non-English specification | |
| 1812 | 2,520 | 1812 2,520 For filing a request for ex parte reexamination | |
| 1804 | 920* | 1804 920* Requesting publication of SIR prior to Examiner action | |
| 1805 | 1,840* | 1805 1,840* Requesting publication of SIR after Examiner action | |
| 1251 | 110 | 2251 55 Extension for reply within first month | |
| 1252 | 420 | 2252 210 Extension for reply within second month | |
| 1253 | 950 | 2253 475 Extension for reply within third month | 475.00 |
| 1254 | 1,480 | 2254 740 Extension for reply within fourth month | |
| 1255 | 2,010 | 2255 1,005 Extension for reply within fifth month | |
| 1401 | 330 | 2401 165 Notice of Appeal | |
| 1402 | 330 | 2402 165 Filing a brief in support of an appeal | |
| 1403 | 290 | 2403 145 Request for oral hearing | |
| 1451 | 1,510 | 1451 1,510 Petition to institute a public use proceeding | |
| 1452 | 110 | 2452 55 Petition to revive - unavoidable | |
| 1453 | 1,330 | 2453 665 Petition to revive - unintentional | |
| 1501 | 1,330 | 2501 665 Utility issue fee (or reissue) | |
| 1502 | 480 | 2502 240 Design issue fee | |
| 1503 | 640 | 2503 320 Plant issue fee | |
| 1460 | 130 | 1460 130 Petitions to the Commissioner | |
| 1807 | 50 | 1807 50 Processing fee under 37 CFR 1.17(q) | |
| 1806 | 180 | 1806 180 Submission of Information Disclosure Stmt | |
| 8021 | 40 | 8021 40 Recording each patent assignment per property (times number of properties) | |
| 1809 | 770 | 2809 385 Filing a submission after final rejection (37 CFR 1.129(a)) | |
| 1810 | 770 | 2810 385 For each additional invention to be examined (37 CFR 1.129(b)) | |
| 1801 | 770 | 2801 385 Request for Continued Examination (RCE) | |
| 1802 | 900 | 1802 900 Request for expedited examination of a design application | |

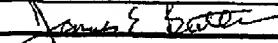
Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 475.00)

*For number previously paid, if greater; For Reissues, see above

SUBMITTED BY

| | | | | | |
|-------------------|---|-----------------------------------|--------|-----------|------------------|
| Name (Print/Type) | James E. Butler | Registration No. (Attorney/Agent) | 40,931 | Telephone | 858 526-5250 |
| Signature |  | | | Date | January 15, 2004 |

(Complete if applicable)

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Docket No. 1220-2
09/214,645P-5
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For: Methods of DNA Shuffling with Polynucleotides Produced by Blocking or Interrupting a
Synthesis or Amplification Process

Examiner: Bradley L. Sisson

RESPONSE UNDER 37 C.F.R. 1.111

Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Sir:

In response to the Office action dated July 16, 2003, Applicant respectfully submits the following amendments and remarks in connection with the above-identified application.

Amendments to the Specification begin on page 2 of this response.

Amendments to the Claims are reflected in the listing of claims beginning on page 3 of this response.

Remarks begin on page 8 of this response.